

REMARKS

Applicant thanks the Examiner for the withdrawal of the restriction requirement. Applicant also thanks the Examiner for the telephone discussion on May 4, 2004, in which the rejection of the claims based on Culver, Pat. No. 4,982,618, and a proposed amendment were discussed, as set forth more particularly herein.

Claims 1-9, 48, 50-52, and 55-61 have been rejected under 35 U.S.C. § 102(b) over Culver (US Pat. No. 4,982,618). Claims 10, 53, and 54 have been rejected under § 103(a) over Culver. Reconsideration of these rejections is respectfully requested.

As noted in Applicant's specification, after research by Applicant, it was found that a single sensor could be focused on a target surface, such as a rollerbar surface, to detect both rotational and translational movements of the rollerbar by, for example, comparing images of the target at known time intervals to determine the movement. (See the specification at, for example, page 4, lines 7-13; page 12, lines 4-21; page 13, lines 6-9) For example, the Solid-State Optical Mouse Sensor HDNS-2000 from Agilent Inc. is a suitable sensor. Independent claims 1 and 50 as amended recite an optical sensor comprising a single sensing component, wherein the single sensing component detects a change in position of the surface in multiple directions.

Culver discloses a device having a rotating cylinder 16 journaled in a sliding bar 8. (Culver, col. 5, lines 29-31, lines 48-50) The Examiner notes that Culver discloses optical encoding. Culver, however, discloses the use of two sensors, one for each direction of motion. Regarding optical encoding, Culver states: "[A] line pattern may be inscribed on the inner or outer surface

of the cylinder to be directly read by adjacent fixed photocells or other sensors. The horizontal axis is detected by a photodetector under the moving bar, reading the movement of lines on the bottom of the bar." (Culver, col. 12, lines 9-14) Thus, Culver is describing the use of a detector to sense motion in one direction only. Note that the other embodiments described in Culver describe multiple detectors, each sensing motion in one direction. See, for example, Fig. 2, which illustrates both a horizontal motion encoder 15 and rotary motion encoder 21.

Accordingly, independent claims 1 and 50 and the claims dependent therefrom are believed to be patentable over Culver.

New claim 79, dependent from independent claim 50, recites that the member of the support mechanism is cantilevered from a mount at a first end. New dependent claim 80 further recites that the member forms a bow and the first end of the member extends at an upward angle from the mount. New dependent claim 81 further recites that the second end floats on a switch in a rest position. New dependent claim 82 recites that the support mechanism comprises a member having a bowed shape. New dependent claim 83 recites that the support mechanism comprises a springy member having a bowed shape from a first end to a second end. See the specification at page 9, lines 11-28.

This mounting arrangement is advantageous because the bowed shape has a measure of springiness that is utilized in depressing the end switch. Thus, when the user applies some pressure to roll and slide the surface, the switch is not activated. However, when the user deliberately presses on the surface, the bow of the member is flattened and the switch is activated. (See the

specification at, for example, page 9, lines 26-28; page 10, lines 24-28)

Culver and the other prior art of record do not disclose, teach, or suggest such a cantilevered or bowed or springy arrangement. Accordingly, these claims are believed to be patentable thereover as well.

Similarly, Culver and the other prior art of record do not disclose, teach, or suggest a tension adjustment device as recited in claims 84-85. Accordingly, these claims are believed to be patentable thereover for this reason as well.

Claim 11 have been rejected under § 103(a) over Culver in view of Nitsuma (US Pat. No. 5,164,712). This claim is believed to be patentable for the reasons set forth above with respect to claim 1. Accordingly, no further comment thereon is believed necessary at this time.

New dependent claims 62-78 relate to further aspects of the present invention. Support therefor can be found in the specification at, for example, page 6, lines 24-27; page 7, lines 9-13.

The drawings have been objected to regarding several reference numerals. The specification has been amended to refer to numerals 57 (and 59) in Fig. 1 and numeral 166 in Fig. 10. Fig. 13 has been amended to delete reference numeral 134. Fig. 6 has been amended to delete reference numeral 118, and the specification has been amended to conform to amended Fig. 6. The specification has also been amended to include the material in claim 10.

The preambles of claims 2-9 and 48 have been amended for consistency with claim 1.

In response to the Examiner's indication that Applicant's Preliminary Amendment filed on April 25, 2002, is not found in the Examiner's file, attached hereto for the record is a copy of Applicant's Preliminary Amendment and the Auto-Reply Facsimile Transmission confirming receipt by the U.S. Patent and Trademark Office.

In view of the above amendments and remarks, all claims are believed to be in condition for allowance, and reconsideration and indication thereof are respectfully requested. The Examiner is encouraged to telephone the undersigned attorney to discuss any matter that would expedite prosecution of the present application.

Respectfully submitted,

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